

What is claimed is:

1. An expansion valve to be equipped in an air conditioner to control the flow of a refrigerant, comprising:

a piping member with a refrigerant path to which is connected a pipe communicated with a device of the air conditioner;

a cassette unit inserted to the piping member;

the cassette unit comprising a tube member formed integrally with a flange member; a guide member, an orifice member and a plate member fixed to an interior of the tube member; a valve member disposed within a valve chamber defined by the orifice member; a plate member defining the valve chamber; a spring disposed between the plate member and the valve member and biasing the valve member toward the orifice member; a shaft member for driving the valve member; a lid member welded onto the flange member; a diaphragm sandwiched between the lid member and the flange member and defining a gas charge chamber; and a stopper for transmitting a displacement of the diaphragm to the shaft member;

a ring for fixing to the piping member the lid member of the cassette unit inserted to the piping member; and

a seal member disposed between an outer diameter of the cassette unit and an inner diameter of the piping member.

2. An expansion valve according to claim 1, wherein the axis of the refrigerant path formed to the piping member is designed according to the layout of the piping.

3. An expansion valve according to claim 1, further comprising a rubber bush disposed to the outside of the tube member.

4. An expansion valve according to claim 1, further comprising a rubber seal member baked onto the outside of the tube member.

5. An expansion valve according to claim 1, wherein the guide member, the orifice member and the plate member are caulked to the tube member.

6. An expansion valve to be equipped in an air conditioner to control the flow of a refrigerant, comprising:

a piping member with a refrigerant path to which is connected a pipe communicated with a device of the air conditioner;

a cassette unit inserted to the piping member;

the cassette unit comprising a tube member; a guide member, an orifice member and a plate member fixed to an interior of the tube member; a valve member disposed within a valve chamber defined by the orifice member; a plate member disposed at the lower end of the tube member and defining the valve chamber; a spring disposed between the plate member and the valve member and biasing the valve member toward the orifice member; a shaft member for driving the valve member; a lid member having a raised

portion welded onto the tube member; a diaphragm sandwiched between the raised portion and the upper end of the tube member and defining a gas charge chamber; and a stopper for transmitting a displacement of the diaphragm to the shaft member;

a ring for fixing to the piping member the lid member of the cassette unit inserted to the piping member; and

a seal member disposed between an outer diameter of the cassette unit and an inner diameter of the piping member.

7. An expansion valve according to claim 6, wherein the axis of the refrigerant path formed to the piping member is designed according to the layout of the piping.

8. An expansion valve according to claim 6, further comprising a rubber bush disposed to the outside of the tube member.

9. An expansion valve according to claim 6, further comprising a rubber seal member baked onto the outside of the tube member.

10. An expansion valve according to claim 6, wherein the guide member, the orifice member and the plate member are caulked to the tube member.